

Harding Lawson Associates



January 13, 1999

Ms. Jeanne-Marie Bruno, P.E.
Acting Associate Director of Water Quality
Metropolitan Water District of Southern California
350 South Grand Avenue
Los Angeles, CA 90054

**Re: Response to Comments:
"Phase 2 Treatability Study Work Plan, Perchlorate in Groundwater,
Baldwin Park Operable Unit, San Gabriel Basin, California"**

Dear Ms. Bruno:

Transmitted under separate cover you should have received a copy of our revised document entitled "Draft Phase 2 Treatability Study Work Plan, Pilot-Scale Groundwater Treatment System, Baldwin Park Operable Unit, San Gabriel Basin dated, October 29, 1998." We believe that this draft work plan addresses Metropolitan Water District of Southern California's (Metropolitan) comments dated June 22, 1998. We apologize for the delay in getting you this letter response to your specific comments. We are proceeding with design and construction of the Phase 2 treatment system at the La Puente Valley Water District Site and therefore request any additional input you might have as soon as practical. Our responses to your specific comments are detailed below.

1.0 General Comments

Metropolitan understands the proposed study is designed to demonstrate that the product water meets all Title 22 drinking water quality regulations and to verify an anoxic biological treatment technology for perchlorate and nitrate reduction to achieve 18 µg/L perchlorate limit or lower and 0.1 mg/L nitrate (as nitrogen) limit or lower. For the protection of public health and the compliance with the existing and future drinking water regulation, it is important to include the following water quality studies in the proposed study:

1. Investigate the formation of disinfection by-products in the product water.
2. Study the potential biological regrowth in the distribution system due to high nutrient levels in the product water (ethanol, methanol, total phosphorus, and ammonia nitrogen).
3. Identify intermediate by-products from biodegradation.
4. Verify no pathogenic microorganisms in the product water.

5. Develop the treatment process reliability, the operational margin of safety, and the stability of the treatment performance for removing all concerned contaminants.
6. Develop robust treatment technologies to ensure no other contaminants (e.g. N-Nitrosodimethylamine, etc.) are in the product water.

Response: We agree. We have incorporated all of these issues into the revised work plan and intend to resolve them as part of the Phase 2 Treatability Study. We look forward to working with Metropolitan during the study to ensure protection of public health and compliance with drinking water regulations.

A plan for the detailed testing protocol, sampling locations, monitoring frequency, monitoring parameters, analytical methods (for drinking water applications) should be included in this work plan.

Response: This issue will be addressed in a separate Sampling and Analysis Plan (SAP) for the treatability study which will be prepared during system design and delivered as part of the design package. A general approach for system monitoring can be found in the revised draft work plan.

2.0 Specific Comments

1. Page 1. Left column, paragraph 1, lines 1-9 – Metropolitan is to assist the Three Valleys Municipal Water District in this BPOU project, therefore, the statement should be changed to “...(EPA) and Three Valleys Municipal Water District (TVMWD) in association with Metropolitan Water District of Southern California (MWD)...”

Response: This change will be included in the final work plan.

2. Page 2. Left column, paragraph 3 – The purpose of the Phase 2 Treatability Study is not only to demonstrate perchlorate and nitrate destruction in the San Gabriel Basin groundwater but also to demonstrate the product water meets all Title 22 drinking water quality regulations. Therefore, this paragraph should be modified.

Response: We agree. The text in the draft work plan has been modified accordingly.

3. Page 4. Right column under Subtitle 4.0 Phase 2 Objectives – The aforementioned water quality studies (mentioned above under General Comments should be included as part of the Phase 2 objectives.

Response: The issues mentioned under the general comments are encompassed by the revised objectives which include: 1. Confirm destruction/removal efficiencies; 2. Establish operating parameters; 3. Collecting data to support permitting as potable water supply; and, 4. Collect data to support design of a full-scale system.

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4. Page 5. Right column, paragraph 4 (under Subtitle 4.3 Treated Water Drinking Water Quality), lines 2 to 4 – Metropolitan's criteria for acceptance of treated water into the distribution systems includes that the downstream customers determine the acceptable water quality levels in Metropolitan's distribution system. Therefore, some water quality parameters may be required to be treated to achieve a level lower than federal and state requirements for a drinking water supply.

Response: We have modified the draft work plan to allow for evaluation of taste, odor, and color of the treated water.


3.0 Conclusion

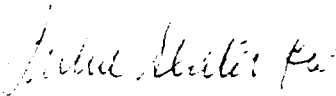
The proposed Phase 2 work plan is intended to demonstrate the potability of the product water produced from the proposed treatment processes including an anoxic biological treatment for perchlorate and nitrate removals, air stripping for volatile organic compound removal, and other processes for disinfection and turbidity reduction. Metropolitan will be glad to work with the BPOU Steering Committee to investigate the treatment processes for the BPOU project.

Response: We look forward to working with Metropolitan during the course of the study. Please note that air stripping is no longer proposed; volatile organic compounds will be removed through UV oxidation. Please refer to the revised work plan for a complete description of the proposed treatment process.

Thank you for the opportunity to respond to your comments. Again, we are looking forward to working with Metropolitan to resolve outstanding concerns. Please call John Catts at (415) 899-8825, Matt McCullough at (909) 739-9593 or Jim Michael at (303) 292-5365 if we can assist you in any way.

Yours very truly,
HARDING LAWSON ASSOCIATES


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Principal Engineer

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cc: Don Vanderkar – BPOUSC
BPOU Steering Committee
Jim Michael – HLA
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